

Environmental Assessment Checklist

Project Name: South Crow Limited Access

Proposed Implementation Date: July, 2017

Proponent: Kalispell Unit, Northwestern Land Office, Montana DNRC

County: Lake

Type and Purpose of Action

Description of Proposed Action:

The Kalispell Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the South Crow Limited Access Sale. The project is located 3 miles SE of Ronan, MT (refer to Attachments vicinity map A-1 and project map A-2) and includes the following sections: NE ¼, NE ½ of SE ¼ of section 16 T 20N R 19W

| Beneficiary | Legal Description | Total Acres | Treated Acres |
|--------------------------------------------|----------------------------------------------|-------------|---------------|
| Common Schools | NE ¼, NE ½ of SE ¼ of section 16 T 20N R 19W | 240 | 193 |
| Public Buildings | | | |
| MSU 2 nd Grant | | | |
| MSU Morrill | | | |
| Eastern College-MSU/Western College-U of M | | | |
| Montana Tech | | | |
| University of Montana | | | |
| School for the Deaf and Blind | | | |
| Pine Hills School | | | |
| Veterans Home | | | |
| Public Land Trust | | | |
| Acquired Land | | | |

Objectives of the project include:

- Commercially thin the proposed units to promote the desired future conditions (DFC) across all timber types.
- Improve 3.1 miles of road on state lands, abandon 2.4 miles post project.
- Build .3 miles of road.
- Remove insect and disease infected trees in the treatment areas.
- Reduce fire hazard across the treatment area by thinning overstocked areas.
- Improve recreational opportunities while limiting noxious weed risk on state trust lands.

Proposed activities include:

| Action | Quantity |
|----------------------------------------------|----------------|
| Proposed Harvest Activities | # Acres |
| Clearcut | |
| Seed Tree | |
| Shelterwood | |
| Selection | |
| Commercial Thinning | 193 |
| Salvage | |
| | |
| Total Treatment Acres | 193 |
| Proposed Forest Improvement Treatment | # Acres |
| Pre-commercial Thinning | |
| Planting | |
| | |
| Proposed Road Activities | # Miles |
| New permanent road construction | 0.3 |
| New temporary road construction | |
| Road maintenance | 3.1 |
| Road reconstruction | |
| Road abandoned | 2.4 |
| Road reclaimed | |
| | |
| Other Activities | |
| | |
| | |

| | |
|--------------------------------|-----------------------------------|
| Duration of Activities: | 2 years |
| Implementation Period: | July 1, 2017 – August 31, 2019 |

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
 - Jan 9, 2017 – Feb. 15, 2017
- PUBLIC SCOPED:

- The scoping notice was posted on the DNRC Website:
<http://dnrc.mt.gov/PublicInterest/Notices/Default.asp>
- Adjacent Landowners
- Daily Interlake
- Little Shell Culture Committee
- Buffalo Chasers Society
- White Clay Society
- The Nature Conservancy
- MT School Boards Association
- MT Wood Products association
- Tricon Timber LLC
- Weyerhaeuser Company
- F. H. Stoltze land and Lumber
- Alliance for the Wild Rockies
- Friends of the Wild Swan
- AGENCIES SCOPED:
 - Confederated Salish and Kootenai Tribes
 - Chippewa Cree Tribe
 - Crow Tribe
 - Fort Belknap Assiniboine and Gros Ventre Tribes
 - Fort Peck Assiniboine and Sioux Tribes
 - Blackfeet Tribe
- COMMENTS RECEIVED:
 - How many: Six
 - Concerns:
 - Are Hydrological features being protected?
 - Have any cultural resources been found?
 - What kinds of bridges/structures are planned?
 - The CSKT Roads Program would like to review the drawing/plans for the 2 proposed bridges.
 - When you mention basic road maintenance for the 2.5 miles of forest road, what does “basic road maintenance” entail?
 - What time of year is the timber harvest proposed for?
 - What kind of advanced notification/warning will motorists and people recreating in the area have? Will their simply be “logging truck” signs or other forms of notification. This area is known for its recreational opportunities and receives a fair amount of foot and vehicle traffic. I would like to see what kind of notification is planned.
 - Results (how were concerns addressed):
 - Both CSKT and DNRC Hydrologists were consulted in project layout and design. There will be a 100’ buffer from S. Crow creek. Any areas with hydric soils will be marked as equipment restriction zones.
 - DNRC’s Archeologist was consulted and a class one review of cultural resources in the area was conducted. No known cultural resources exist in the project area.
 - CSKT roads program was consulted and approved the transportation plan for this project. All recreation and road maintenance concerns were mitigated to the greatest degree practical.

DNRC specialists were consulted, including:

Marc Vessar – Hydrologist
Leah Breidinger – Wildlife Biologist
Patrick Rennie – Archeologist
Tim Spoelma – Silviculturist

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

(Conservation Easements, Army Corps of Engineers, road use permits, etc.)

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at www.dnrc.mt.gov/HCP.
- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.
- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006). As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.

ALTERNATIVES CONSIDERED:

No-Action Alternative: No timber harvesting would occur. Forest succession would continue to occur in this area. Due to fire suppression, the stand would move towards an overstocked late successional forest type.

Action Alternative: Commercial thinning would occur across 193 acres of forested land. Currently open road systems would be upgraded to meet current BMP standards, reducing the possibility of sediment contribution to South Crow Creek. Fire risk would be reduced across 193 acres in the wildland urban interface, offering a buffer between tribal wilderness management and populated areas.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions:

The area is currently a dry, western larch/Douglas-fir forest type on the north facing slopes and ponderosa pine forest type on the southern facing slopes. The understory is dominated by snowberry and ninebark.

The project area burned in the fires of 1910 with near total stand replacement. The result of that fire is a primarily even aged stand of large fir and pine trees. There are a few remnant trees from before the fire but they are rare (>1/acre). Overall the stand is healthy but some signs of overstocking (abnormal growth, susceptibility to disease) are beginning to show.

Disease factors are present but localized in small areas of the stand. Primarily Douglas fir mistletoe and bark beetle are present. Stand treatments will attempt to remove infected trees, promoting the health of remnants. The proposed treatment will also reduce overstocked conditions across Douglas fir forest types in the project area; reducing both fire danger and opportunity for insects and disease.

| Vegetation | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|-------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| <i>No-Action</i> | | | | | | | | | | | | | | |
| Noxious Weeds | X | | | | X | | | | X | | | | | |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Vegetative community | X | | | | X | | | | X | | | | | |
| Old Growth | X | | | | X | | | | X | | | | | |
| <i>Action</i> | | | | | | | | | | | | | | |
| Noxious Weeds | X | | | | X | | | | X | | | | | |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Vegetative community | X | | | | X | | | | X | | | | | |
| Old Growth | X | | | | X | | | | X | | | | | |

Comments: N/A

Vegetation Mitigations: N/A

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The Natural Resources Conservation Service's Web Soil Survey was used to identify soil types in the project area. Soils were mapped in 1985 and published in the *Soil Survey of Lake County Area, Montana* (USDA NRCS 1998). Soil types present in the proposed harvest area include Connah cobbly silt loam, Courville gravelly silt loam, Finleypoint cobbly loam, Finleypoint gravelly loam, and Finleypoint very gravelly loam. These soil types have low and moderate erosion factors (K_w).

No records of past harvesting in the parcel were found in DNRC files, however stumps along user built roads are prevalent and indicative of widespread firewood removal.

| Soil Disturbance and Productivity | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|----------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Physical Disturbance (Compaction and Displacement) | | X | | | | X | | | | X | | | | |
| Erosion | X | | | | X | | | | | X | | | | |
| Nutrient Cycling | X | | | | X | | | | X | | | | | |
| Slope Stability | X | | | | X | | | | X | | | | | |
| Soil Productivity | X | | | | X | | | | X | | | | | |
| Action | | | | | | | | | | | | | | |
| Physical Disturbance (Compaction and Displacement) | | X | | | | X | | | | X | | | | |
| Erosion | | X | | | | X | | | | X | | | | |
| Nutrient Cycling | X | | | | | X | | | | X | | | | |
| Slope Stability | X | | | | X | | | | X | | | | | |
| Soil Productivity | X | | | | X | | | | | X | | | | |

Comments:

S-1: Current impacts include roads (designed and user defined) within the state parcel. The compaction on the designed roads is intentional to provide a safe, durable driving surface. Past monitoring on DNRC timber sales from 1988 to 2011 has shown an average of 12.2 percent soil impacts due to compaction, displacement or severe erosion across all parent materials (DNRC 2011). For the proposed action, approximately 24 acres could be impacted with moderate or higher compaction or displacement. These impacts would be minimized through the implementation of Forestry BMPs concurrent with harvest operations.

S-2: Erosion within the state parcel is primarily on the road surface because of use and no maintenance or BMP improvements. Under the proposed action, the roads would be improved to meet Forestry BMPs and reduce the risk of erosion. The “low impact” designation assigned in the table above represents the risk due to bare mineral soil exposure during road construction and BMP upgrades. This risk would remain until vegetation is established.

S-3: Removal of fine material during harvest operations would result in minimal impacts to nutrient cycling.

Soil Mitigations:

- ARM 36.11.422 (2) and (2)(a) state that appropriate BMPs shall be determined during project design and incorporated into implementation. To ensure that the incorporated BMPs are implemented, the specific requirements would be incorporated into the DNRC Timber Sale Contract. As part of this alternative design, the following BMPs and recommendations are considered appropriate and, would be implemented during harvesting operations:

- 1) Limit ground-based equipment operations to periods when soils are relatively dry, (less than 20 percent oven-dry weight harvest units), frozen, or snow-covered to minimize soil compaction and rutting, and maintain drainage features. Check soil moisture conditions prior to equipment start-up. To prevent soil resource impacts, logging activities would be restricted to periods when one or more of the following conditions occurs, unless otherwise approved in writing by the Forest Officer.
 - Soil-moisture content at 4-inch depth is less than 20% of oven-dry weight
 - Minimum frost depth of 3 inches
 - Minimum of 18 inches loose snow or 12 inches packed snow adequate to avoid soil displacement
- 2) The logger and sale administrator would agree to a skidding plan prior to equipment operations. Skid-trail planning would identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e. trails in draw bottoms) would not be used unless impacts can be adequately mitigated. Regardless of use, these trails may be closed with additional drainage installed, where needed, or grass-seeded to stabilize the site and control erosion.
- 3) Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion. Based on site review, short, steep slopes may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline, and skidding from more moderate slopes of less than 40 percent.
- 4) Keep skid trails/landings to 20 percent or less of the harvest unit acreage. This requires average skid trail spacing at least 60 feet. Provide for drainage on skid trails and roads concurrently with operations.
- 5) Retain 10-20 tons per acre of large woody debris in all units. Maintain a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.
- 6) Install and maintain adequate road drainage to control erosion and comply with forestry Best Management Practices and maintain concurrent with hauling operations. To maintain drainage features and avoid rutting, the department would limit the season of road use to dry, frozen or adequately snow covered conditions.

WATER QUALITY AND QUANTITY:

Although South Crow Creek contains purestrain westslope cutthroat trout, due to the low intensity forest management proposed in much of this project and the 100-ft no harvest buffer on South Crow Creek, cumulative watershed effects due to the proposed project would be expected to be low.

Water Quality and Quantity Existing Conditions:

The proposed project is in the Upper Crow Creek watershed (6th code HUC170102120604) which is a 47,854-acre watershed that drains to Lower Crow Reservoir although much of the water is diverted into irrigation canals. This watershed includes South Crow Creek, North Crow Creek, Spring Creek and several smaller tributaries. The state parcel is in the South Crow Creek subwatershed.

South Crow Creek originates in the Mission Mountains Tribal Wilderness and flows west through the state parcel before the first diversion structure into the Pablo Feeder Canal. The watershed size above this diversion structure is approximately 4,853 acres, including 4,491 acres in the Mission Mountains

Tribal Wilderness. Because much of the watershed above the diversion structure is in wilderness, very little timber harvest or road construction has been implemented and thus has little impact on water quality or annual water yield. However, two road crossings were identified during field reconnaissance: a bridge above the state parcel and a ford below the state parcel. Both sites had evidence of direct sediment delivery into the channel, although the bridge site was recently improved.

The channel stability condition through the state parcel is good. Large woody debris is abundant to maintain channel form while providing habitat for the purestrain westslope cutthroat trout. Several debris jams were identified, but no apparent barriers to fish movement was noted.

| Water Quality & Quantity | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|--------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Water Quality | X | | | | X | | | | | X | | | | |
| Water Quantity | X | | | | X | | | | | X | | | | |
| Action | | | | | | | | | | | | | | |
| Water Quality | | X | | | | X | | | | X | | | Y | W-1 |
| Water Quantity | | X | | | | X | | | | X | | | N | W-2 |

Comments:

W-1: If the action alternative were selected, the purchaser would be required by the CSKT officials to place a temporary bridge at the road crossing above the state parcel. While DNRC has no jurisdiction or authority over roads outside of the state parcel, the CSKT officials would likely require Forestry BMPs to mitigate the risk of sediment entering the stream. Forestry BMPs are very effective at minimizing sediment delivery, however it is probably that some incidental sediment would be deposited in or near the stream during construction activities.

Timber harvest would be limited to areas outside of a 100 foot stream buffer with one exception. Per discussions with the CSKT Hydrologist, approximately 300 lineal feet of individual dead/dying tree removal may occur on the outer 25 feet of the buffer.

W-2: The removal of live timber generally results in an increase in annual water yield. Because of the limited amount of timber proposed for removal and the lack of harvest in wilderness areas, the direct, indirect and cumulative impacts would be very low and likely immeasurable.

Water Quality & Quantity Mitigations:

-Follow all Forestry BMPs

FISHERIES:

Fisheries Existing Conditions: South Crow Creek contains purestrain westslope cutthroat trout within the project area. The current riparian condition provides shade, protection from temperature increase and woody debris recruitment. The flow regime is not measurably affected by management activities due to the Mission Mountains Tribal Wilderness above the state parcel. While fish connectivity is not adversely impacted at the two road crossings, a portion of South Crow Creek is diverted into irrigation canals which is assumed to have some impact.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

| Fisheries | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|--------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Sediment | | X | | | | X | | | | X | | | | F-1 |
| Flow Regimes | X | | | | X | | | | X | | | | | |
| Woody Debris | X | | | | X | | | | X | | | | | |
| Stream Shading | X | | | | X | | | | X | | | | | |
| Stream Temperature | X | | | | X | | | | X | | | | | |
| Connectivity | X | | | | X | | | | | X | | | | F-2 |
| Populations | X | | | | X | | | | X | | | | | |
| Action | | | | | | | | | | | | | | |
| Sediment | | X | | | | X | | | | X | | | Y | F-1 |
| Flow Regimes | X | | | | X | | | | X | | | | | |
| Woody Debris | X | | | | X | | | | X | | | | | |
| Stream Shading | X | | | | X | | | | X | | | | | |
| Stream Temperature | X | | | | X | | | | X | | | | | |
| Connectivity | X | | | | X | | | | | X | | | | F-2 |
| Populations | X | | | | X | | | | X | | | | | |

Comments:

F-1: Impacts from sediment is limited to road crossings on South Crow Creek. The impacts are very low, and likely not measurably adverse to fish.

F-2: Impacts to connectivity are a result of diversion structures. No part of the proposed project would negatively or positively affect connectivity.

Fisheries Mitigations:

-Follow Forestry BMPs to minimize the risk of sediment delivery to streams.

WILDLIFE:

No-Action: None of the proposed activities would occur. In the short-term, no changes to the amounts, quality, or spatial arrangement of mature forested habitat would occur. In the long-term and in the absence of natural disturbance, habitat availability would increase for species preferring mature connected forests while habitat availability would decrease for species preferring young, open stand types.

Action Alternative (see Wildlife table below):

| Wildlife | Impact | | | | | | | | | | | | Can Impact be Mitigated? | Comment Number |
|---------------------------------------------------------------------------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| Threatened and Endangered Species | | | | | | | | | | | | | | |
| Grizzly bear (Ursus arctos) Habitat: Recovery areas, security from human activity | | X | | | | X | | | | X | | | Y | WI-1 |
| Canada lynx (Felix lynx) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone | X | | | | X | | | | X | | | | | |
| Sensitive Species | | | | | | | | | | | | | | |
| Bald eagle (Haliaeetus leucocephalus) Habitat: Late-successional forest within 1 mile of open water | | X | | | | X | | | | X | | | Y | WI-2 |
| Black-backed woodpecker (Picoides arcticus) Habitat: Mature to old burned or beetle-infested forest | X | | | | X | | | | X | | | | | |
| Coeur d'Alene salamander (Plethodon idahoensis) Habitat: Waterfall spray zones, talus near cascading streams | X | | | | X | | | | X | | | | | |
| Columbian sharp-tailed grouse (Tympanuchus Phasianellus columbianus) Habitat: Grassland, shrubland, riparian, agriculture | X | | | | X | | | | X | | | | | |
| Common loon | X | | | | X | | | | X | | | | | |

| Wildlife | Impact | | | | | | | | | | | | Can Impact be Mitigated? | Comment Number |
|---------------------------------------------------------------------------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| <i>(Gavia immer)</i> Habitat: Cold mountain lakes, nest in emergent vegetation | | | | | | | | | | | | | | |
| Fisher <i>(Martes pennanti)</i> Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian | | X | | | | X | | | | X | | | Y | WI-3 |
| Flammulated owl <i>(Otus flammeolus)</i> Habitat: Late-successional ponderosa pine and Douglas-fir forest | | X | | | | X | | | | X | | | Y | WI-4 |
| Gray Wolf <i>(Canis lupus)</i> Habitat: Ample big game populations, security from human activities | | X | | | | X | | | | X | | | Y | WI-5 |
| Harlequin duck <i>(Histrionicus histrionicus)</i> Habitat: White-water streams, boulder and cobble substrates | X | | | | X | | | | X | | | | | |
| Northern bog lemming <i>(Synaptomys borealis)</i> Habitat: Sphagnum meadows, bogs, fens with thick moss mats | X | | | | X | | | | X | | | | | |
| Peregrine falcon <i>(Falco peregrinus)</i> Habitat: Cliff features near open foraging areas and/or wetlands | X | | | | X | | | | X | | | | | |
| Pileated woodpecker <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest | | X | | | | X | | | | X | | | Y | WI-6 |
| Townsend's big-eared bat <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines | X | | | | X | | | | X | | | | | |
| Wolverine <i>(Gulo gulo)</i> | X | | | | X | | | | X | | | | | |

| Wildlife | Impact | | | | | | | | | | | | Can Impact be Mitigated? | Comment Number |
|--------------------------------------------------------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring | | | | | | | | | | | | | | |
| Big Game Species | | | | | | | | | | | | | | |
| Elk | | X | | | | X | | | | X | | | Y | WI-7 |
| Whitetail | | X | | | | X | | | | X | | | Y | WI-7 |
| Mule Deer | | X | | | | X | | | | X | | | Y | WI-7 |
| Other | X | | | | X | | | | X | | | | | |

Comments:

WI-1 Grizzly bear – The Project Area is considered grizzly bear non-recovery occupied habitat associated with the Northern Continental Divide Ecosystem (NCDE) (USFWS 1993, Wittinger 2002) and use of the area by bears is likely to occur. Approximately 159 acres of visual screening would be treated with a commercial thin treatment. However, post-harvest these stands will likely continue providing hiding cover considering high tree retention, and the high density of shrubs throughout the harvest units. Approximately 0.3 miles of road that would be closed with a berm post-harvest would be constructed to remove logs. Open road density is currently high in the parcel at 8.7 miles per square mile and efforts would be made to reduce access to the parcel by closing 2.1 miles of currently open roads with berms, stumps and rocks. Spring timing restrictions would be applied from April 1 – June 15 to provide security for grizzly bears in the spring.

WI-2 Bald eagle - The Project Area is located within the home range of a bald eagle pair that nests near Kicking Horse Reservoir. However, the Project Area is not likely to be used frequently by bald eagles considering the distance to the reservoir and the location of previous nest sites. However, large emergent trees would be retained for perching and roosting sites throughout the Project Area. If the pair moves their nest to within ½ mile of the harvest units, all mechanized activities including logging and hauling would be minimized from February 1 – August 15.

WI-3 Fisher – Approximately 14 acres of potential fisher habitat would be affected by the proposed activities (51.1% of fisher habitat available in the Project Area). Of these acres, seven would retain approximately 35% canopy cover of mature trees and would not provide suitable conditions for fisher post-harvest. Riparian fisher habitat would be minimally affected considering that snags and trees affected by disease would be removed from 0.5 acres in an area that is currently used heavily for firewood collection to discourage further illegal road construction and tree harvesting in the riparian area. Overall, the greater landscape consists of drier forest types that are not likely to be used by fishers; however, connectivity would remain along the South Crow River which contains many cedar trees that have the potential to provide suitable fisher habitat. To reduce potential adverse effects on fishers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (ARM 36.11.411). These snags would be clumped in areas that are less accessible to firewood collection.

WI-4 Flammulated owls – The proposed activities would affect 42 acres of habitat types that are suitable for flammulated owls (73.4% of habitat available in the Project Area). The proposed

activities would open the stands to 35-60% canopy cover, improving stand structure for flammulated owls which prefer a more open stand physiognomy. Some snags could be removed by the proposed harvest, but at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). Logging activity could temporarily displace flammulated owls near the Project Area, but overall, beneficial effects to flammulated owls are anticipated considering that forest structure would improve post-harvest.

WI-5 Gray wolves - Wolves may use habitat near the Project Area. Disturbance associated with timber sales at den and rendezvous locations can adversely affect wolves; however, timing restrictions would apply if den or rendezvous sites are documented (*ARM 33.11.430(1)(a)(b)*).

WI-6 Pileated woodpeckers – The proposed activities would affect 32 acres of suitable pileated woodpecker habitat (49.8% of habitat available in the Project Area). These acres would retain approximately 60% mature canopy cover post-harvest and would remain suitable for pileated woodpecker use, albeit at a reduced stand density and potentially habitat quality. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*). Snags would be clumped in areas less accessible to firewood collection.

WI-7 Big game – The proposed activities would reduce thermal cover on potential winter range. However, mature canopy cover retention would be moderate at 35-60% and game animals would likely be able to continue using the area during harsh winter conditions. Road closures would increase security for big game animals and visual screening would be retained along open roads.

Wildlife Mitigations:

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per *ARM 36.11.444(2)* and *GB-PR2 (USFWS and DNRC 2010)*.
- Effectively close roads in the project area via a combination of kelly humps, rocks, and stumps.
- Retain visual screening along open roads where possible to increase security for wildlife.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next available size class, particularly favoring western larch, ponderosa pine, and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit. Snags may be clumped in areas located away from roads to reduce the likelihood of them being removed by firewood cutters.
- Retain 10-20 tons/acre of coarse-woody and emphasize retention of 15-inch diameter downed logs where they occur.
- Prohibit high-intensity forest management activities including logging, mechanical site preparation, and slash treatment using heavy equipment from April 1 – June 15 to provide security for grizzly bears in the spring. Low-intensity forest management activities such as weed management and tree planting would be permitted during this time period.

Literature:

USFWS. 1993. Grizzly bear recovery plan.

Wittinger, W. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum. Report on file at Unpublished memorandum on file at USDA Forest Service, Region 1, Missoula, MT.

AIR QUALITY: This area is within Airshed 2 as defined by the Montana/Idaho Airshed Group, and portions of the section are also within the CSKT class 1 impact zone. The Airshed Group monitors weather conditions and manages open burning restrictions for its members within the airshed to limit smoke impacts from prescribed burning operations, including slash burning. There are also households along the main haul route out of this section. This road is maintained by the county and has regular forest industry use.

| Air Quality | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Smoke | X | | | | X | | | | X | | | | | |
| Dust | X | | | | X | | | | X | | | | | |
| Action | | | | | | | | | | | | | | |
| Smoke | | X | | | X | | | | X | | | | Yes | 1 |
| Dust | X | | | | X | | | | X | | | | | |

Comments:

1. Small amounts of smoke will be generated by pile burning post-harvest.

Air Quality Mitigations:

1. By pile burning only when allowed by the airshed smoke dispersal will be maximized and impacts will be both short and low intensity.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL

RESOURCES: Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. No response was returned that identified a specific cultural resource issue. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that no cultural or paleontological resources have been identified in the APE on state land. No additional archaeological investigative work will be conducted in response to this proposed timber salvage. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

No limited resources were identified. No direct, indirect, or cumulative effects are expected with implementation of either alternative.

| Will Alternative result in potential impacts to: | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|-----------------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------------|-------------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Historical or Archaeological Sites | X | | | | X | | | | X | | | | | |
| Aesthetics | X | | | | X | | | | X | | | | | |
| Demands on Environmental Resources of Land, Water, or Energy | X | | | | X | | | | X | | | | | |
| Action | | | | | | | | | | | | | | |
| Historical or Archaeological Sites | X | | | | X | | | | X | | | | | |
| Aesthetics | | X | | | X | | | | X | | | | Yes | 1 |
| Demands on Environmental Resources of Land, Water, or Energy | X | | | | X | | | | X | | | | | |

Comments:

- Logging and related activities proposed in the action alternative would change the outward appearance of the project area. These anthropomorphic effects are most notable immediately after a sale particularly when soils or surface vegetation are disturbed. As time progresses and disturbed areas revegetate these effects become less noticeable.

Mitigations:

- As identified in the soils section of the analysis, logging will only occur during times when impacts to soils and existing non-merchantable vegetation are limited. This mitigation will both protect soils and reduce aesthetic alteration.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: *List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

- Mission Mountain Tribal Wilderness plan: The wilderness plan aims to promote natural forest succession across the wilderness area. The proposed project area lies between this wilderness area and the town of Ronan, MT. By reducing fuels in this wildland urban interface, we can hopefully prevent future conflicts between wilderness management and the need for public safety.
- The Flathead Indian Reservation Forest Management Plan: The Flathead Indian Reservation Plan seeks to “promote perpetually productive ecosystems for future generations”. These goals are in cohesion with the DNRC forest management goals that elicited the action alternative.

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

| Will Alternative result in potential impacts to: | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|-------------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------|----------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| No-Action | | | | | | | | | | | | | | |
| Health and Human Safety | X | | | | X | | | | X | | | | | |
| Industrial, Commercial and Agricultural Activities and Production | X | | | | X | | | | X | | | | | |
| Quantity and Distribution of Employment | X | | | | X | | | | X | | | | | |
| Local Tax Base and Tax Revenues | X | | | | X | | | | X | | | | | |
| Demand for Government Services | X | | | | X | | | | X | | | | | |
| Access To and Quality of Recreational and Wilderness Activities | X | | | | X | | | | X | | | | | |
| Density and Distribution of population and housing | X | | | | X | | | | X | | | | | |
| Social Structures and Mores | X | | | | X | | | | X | | | | | |
| Cultural Uniqueness and Diversity | X | | | | X | | | | X | | | | | |
| Action | | | | | | | | | | | | | | |
| Health and Human Safety | X | | | | X | | | | X | | | | | |
| Industrial, Commercial and Agricultural Activities and Production | X | | | | X | | | | X | | | | | |
| Quantity and Distribution of Employment | X | | | | X | | | | X | | | | | |
| Local Tax Base and Tax Revenues | X | | | | X | | | | X | | | | | |
| Demand for Government Services | X | | | | X | | | | X | | | | | |
| Access To and Quality of Recreational and Wilderness Activities | | X | | | X | | | | X | | | | Yes | 1 |

| Will Alternative result in potential impacts to: | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|-------------------------------------------------------------|--------|-----|-----|------|-----------|-----|-----|------|------------|-----|-----|------|--------------------------------|-------------------|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| Density and Distribution of population and housing | X | | | | X | | | | X | | | | | |
| Social Structures and Mores | X | | | | X | | | | X | | | | | |
| Cultural Uniqueness and Diversity | X | | | | X | | | | X | | | | | |

Comments:

1. The proposed activities will increase the amount of traffic on the access to a high use recreation area. This could create conflicts as recreational users and log hauling traffic attempt to use a single lane road.

Mitigations:

1. Log-hauling would mostly occur during the work week when recreational use is decreased. The proposed project would also involve vast improvements to the current road system, improving sight distance, increasing the number of turnouts and improving drivability of the roads. These changes would increase the safety of the road system, decreasing likely conflicts. Also, during operations the haul route would be marked with log-hauling signs so recreation users would be aware of potential conflicts while using the roads.

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time.

Action: The timber harvest would generate additional revenue for the Common Schools Trust. The estimated return to the trust for the proposed harvest is \$306,592 based on an estimated harvest of 1,971 thousand board feet (11,792 tons) and an overall stumpage value of \$26.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Brown, J.K. 1974. Handbook for inventorying downed woody material. In: USDA and Forest Service (Editors). Ogden, Utah: Intermountain Forest and Range Experiment Station.

DNRC 2011. DNRC update to the Compiled Monitoring Report. Includes data from 1988 through 2011. Unpublished. Prepared by J. Schmalenberg, Forest Management Bureau, Missoula, MT.

Graham, R.T., A.E. Harvey, M.F. Jurgensen, T.B. Jain, J.R. Tonn, and D. S. Page-Dumroese. 1994. Managing Coarse Woody Debris in Forest of the Rocky Mountains. USDA Forest Service Research Paper. INT-RP-447. 13 pp

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?

No

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

No

Environmental Assessment Checklist Prepared By:

Name: Caleb Deitz

Title: Forester

Date: May 8, 2017

Finding

Alternative Selected

Action Alternative

Significance of Potential Impacts

I find that the impacts of the proposed action alternative as described in this Environmental Assessment are not significant. Reducing fuel loads and enhancing forest health while opening the canopy along the access road will benefit the trusts and those using this area for recreation.

Need for Further Environmental Analysis

☐ EIS

☐ More Detailed EA

☒ No Further Analysis

Environmental Assessment Checklist Approved By:

Name: David M. Poukish

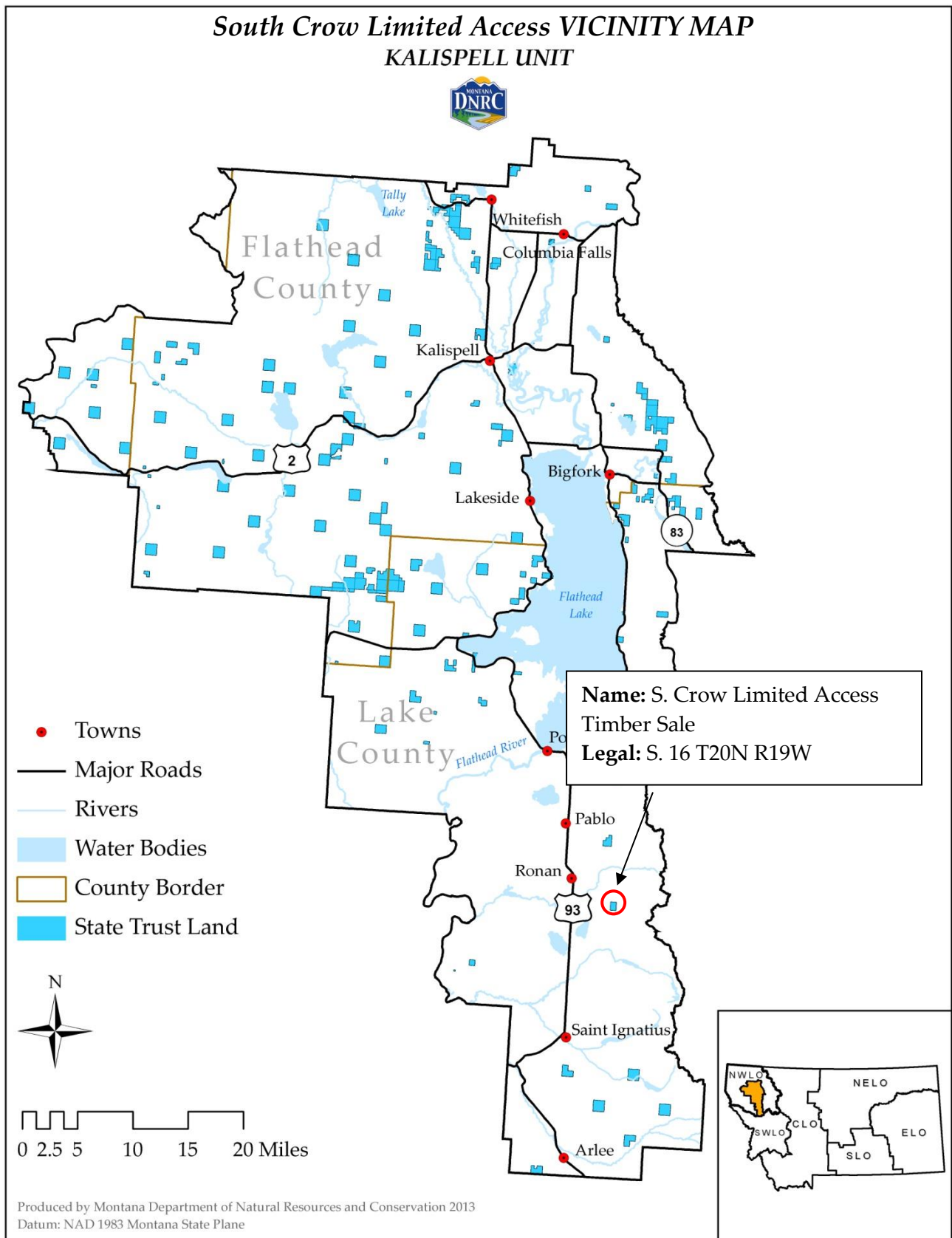
Title: Kalispell Unit Manager

Date: May 9, 2017

Signature: /s/ David M. Poukish

Attachment A- Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units

South Crow Project Map

